

Gender and Alternate Land Use Systems

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Environmental degradation, global warming, shortage of fuel and fodder are some of the important issues which have received the recent attention of the scientists, environmentalist, planners and others throughout the world. The situation is alarming in semi-arid areas. Where due to erratic rainfall and excess biotic activity the degradation of soil and environment are fast taking place. The strategy to check the degradation without adversely affecting the productivity. Forestry and Agro forestry are the solution that arrest degradation and improvement of forage and fuel wood productivity. Agro forestry has a major role to play in many ways.

Agricultural land degradation has an impact on the production capacities of families and thus on women of those families. Women wrested with collection of fuel and fodder has to spend more hours on these activities, still, further suffer due to deforestation and land degradation.

Need for Gender Integration:

Gender is often referred to as ‘women’. Most development professionals direct the bulk of their gender mainstreaming efforts toward activities that aim to empower women economically and politically to protect their rights and increase their representations in all manner of decision making bodies. But gender is not just about women. Gender refers to socially constructed roles of women and men as well as the relationships between them in a given society at specific time and place. Gender is the differences in roles and responsibilities of men and women in society. It is the socially constructed whereas Sex is the biological differences, which is decided in birth. Gender can be changed but not sex. Gender differences occur at home, at work place and in profession. Women are mostly subjected to gender discrimination than men, therefore, gender is referred to as women but men are also subjected to gender particularly when belonged to lower rung of social ladder. Women belonging to all social groups both rich and poor are victims of gender.

Some statistics regarding women status worldwide:

- Of the world's one billion poorest people three fifths are women and girls.
- Of the 960 million adults in the world who cannot read two thirds are women.
- Seventy percent of the 130 million children who are out of school are girls.
- With notable exceptions, such as Rwanda and the Nordic countries, women are conspicuously absent from parliaments, making up, on average only 16% of parliamentarians worldwide.
- Women everywhere typically earn less than men both because they are concentrated in low paying jobs and because they earn less for the same work.
- Although women spend about 70% of their unpaid time caring for family members that contribution to the global economy remains invisible.
- Upto half of all adult women have experienced violence at the hands of their intimate partners.

Gender roles in agro forestry systems.

I Participation

A study in Vietnam revealed that labour use pattern showed significant difference in the involvement of women as compared to men. However their roles depended on the types of crops, trees, and animals, off farm activities as well as economic status. It was found that women of medium and poor income groups spent significantly more time than men in almost all food crops. High and medium income women spent more labour days per year than poor women in cultivating eucalyptus. (Hoang thi sen, 2007)

A study of male and female labor on food and cash crops was carried out in an agro forestry system in central highlands of Kenya. Female labor was found to be significantly higher than male labor crop in all crops other than coffee. The activities that were performed by men in male managed farms were found to be performed by women in female managed farms implying substitutability of male labour by female labour in the female managed and female –headed households.(Njuki *et al* , 2007).

According to Chinnamani and Chandra (1990), a large number of women workers are involved in forestry activities such as seed collection, nursery raising, planting, weeding, maintenance, protection, harvesting and marketing.

Participation of women in nursery raising for forestry

Operation	Work done by women
Sowing	70-100
Digging and preparation of seed bed	10-20
Watering	30-50
Weeding	80-100
Filling of polybags	50-70
Planting in polybags	50-70
Weeding in polybags	90-100
Watering of polybags	50-70
Loading of polybags	70-100
General upkeep and maintenance of nursery sheds	80-100

Source Chinnamani and Chandra,1990

Aftercare tasks performed by Women

Operation	Work done by Women
Weeding	80-100
Soil working	50-60
Fertilization	30-40
Watering	40-50
Collection of fallen material	40-60

a. Gender Stratification – A Case of Joint forest Management

In Areas of Strict gender stratification and heterogenous communities women participation was stated to be low. A study conducted in four villages of Rajasthan and Maharashtra revealed that in capitalistic influenced societies like in Maharashtra state women participation was 'transformative and representative' kind where women attended programmes as committee representatives, voiced their views openly and contributed to change as desired by them. However, in traditional societies like in Rajasthan women participation was influenced by the culture and norms, which lead to the instrumental and nominal kind of participation in implementation of joint forest management programmes. It is the gender stratification that influenced women participation in such programmes. . (Manjushe Gupte,2004).

Comparative Analysis

	Village 1	Village 2	Village 3	Village 4
Ethnic composition	Homogenous	Heterogenous	Homogenous	Heterogenous
External Agency	NGO	Forest Department	NGO	Forest Department
Gender stratification	Liberal	Liberal	Traditional	Traditional
Women's participation	Representative	Instrumental	Instrumental	Nominal
Overall participation	Transformative	Representative	Instrumental	Instrumental

Source : (Manjushe Gupte,2004).

II Decision- Making

Decision – Making:

It is commonly observed that education helps to arrive at feasible decision-making during any undertaking. The study indicated that number of educated persons per household has statistically significant relationship with the number of trees planted on farmland. But analysis shows that the afforestation activities or number of trees grower on farmland is independent on the number of adult males in the household. It is also generally believed that females take less activities part in outdoor afforestation activities due to social constraints. But the afforestation activities or number of trees grown on farmland is not dependent on the number of adult females in the household. The number of trees planted is independent of gender. One can safely conclude that male and female members of the household perform different operations jointly or independently as per demand of the job. The data indicated no relationship between the number of trees grown and benefits perceived. In other word the farmers are keeping in view intangible benefits in addition to commonly perceived tangible benefits.

a. Choice for species:

1. Choosing of species that satisfy food, nutrition, fuel-wood and health problems of farm families is an important factors for promoting acceptability of agro-forestry package. (Kofu Ownsu.Bempah, 1986).

Farmers' Household type and the average no. of Forest products, they know by age group

Age group	Total no. of HH's		Household defacto Headed by Women			Listing of forest products by farmers	
	Total	Women	No	Percentage	Main reasons	Men	Women
Below 21	161	86	10	6.2	Male out migration	6	27
22-35	391	204	121	30.9	Male out migration & divorce	10	39
36-45	920	510	237	25.8	Divorce 2 desertion abandonment	16	62
46-60	928	400	240	25.9	Divorce & death of husband	25	98
Total	2400	1200	608	25.3	Average	14	57

Source : Kofu Ownsu, Bempali, 1986.

Goals of farmer in farming systems resource of Ghana

Needs	Role of forest production in achieving needs	Men farmers		Women farmers	
		Order of priority needs	% of men	Order of priority needs	% of women
Adequate food, Nutrition & shelter	High	3	89.6	1	100.0
Domestic fuel-wood / energy	High	6	82.9	2	98.6
Health / medicinal plants	High	4	73.7	3	95.2
Higher income	Low	1	99.8	4	97.4
Better clothing & social status	Low	2	92.3	5	88.9
Better children's education	Low	5	93.1	6	79.8
Cultural values	Moderate	7	83.7	7	75.4

Source : Kofu Ownsu, Bempah, 1986.

From the above table it was inferred that Food, nutrition, health and energy are more important to women farmers than income, clothes and social status which are comparably more important to men farmers. And also women farmers are better conservators and more resourceful than their men counter parts.

III Gender –differentiated risks in biofuel production:

There is perceived increase of socio economic benefits that could accrue through first generation liquid fuels with bio-diesel plantations. The potential gender-differentiated risks are high with large-scale production of biofuel plantations as it replaces the food crops like maize corn for ethanol, *Jatropha* in food systems for bio diesel production. It leads to food security risks and rise in food prices together affect both men and women equally. (Andrea Rossi and Yianna Lambrou 2008). These issues need to be addressed in the policies developed on climate change mitigation and biofuels production.

Men and women within the same household as well as males and female –headed households, could face different risks, particularly with regard to their access to and control of land and other productive assets, their level of participation in decision –making and socio economic activities, employment opportunities and conditions and their food security.

Gender issues from bio fuel production

- Increased food insecurity for men and women.
- Decreased livestock impact on rural household food security.
- Access to marginal lands for women to cultivate food crops.

The policy implications should promote pro poor biofuel development strategy where the energy plantations should integrate rather replace existing local agri- food systems and protect small holder interests, traditional agricultural activities, skills and knowledge besides promote gender equality and empowerment of women.

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